

Louisiana Department of State Civil Service

Sample Questions for
Series 9111

**ENGINEERING
TECHNICIAN**

This booklet contains *SAMPLE QUESTIONS ONLY*.

None of the questions in this booklet are actual test questions. They are samples and are not intended to cover all topics which may appear on the test.

Studying this booklet *WILL NOT NECESSARILY IMPROVE YOUR TEST SCORE*.

January 2007

PRERPARING FOR THE ENGINEERING TECHNICIAN TEST

The Engineering Technician Test measures abilities used in a number of entry level Engineering Technician jobs throughout the Louisiana Department of Transportation and Development.

This study guide is designed to allow you to become familiar with the types of questions you will answer. It also provides helpful information about taking the test. The test consists of two parts.

Part 1 measures the ability to quickly and accurately find small differences in pairs of figures. Part 2 measures the ability to use English correctly, to follow directions, and to solve word problems requiring arithmetic calculations.

Part 1 is a highly speeded test. There are 100 questions, and the time limit is 7 minutes. Some people cannot finish all the questions in the 7 minutes, but it is important to answer as many as possible without making wild guesses. You are not allowed to skip questions. Concentrate hard and work fast.

Part 2 contain 60 questions: 20 English Usage, 20 Following Directions, and 20 Problem Solving.

Taking the test: Applicants should prepare for taking the test by following the practices and techniques suggested below:

1. Study the sample question included in this booklet carefully. Also, when you take the test, pay attention to the instructions in the booklet.
2. Use the clock or your watch as an aid in keeping track of the time during the examination.
3. In order to avoid arriving too late to be admitted to the examination, allow extra time for traveling to the testing center.

How to answer the questions:

Part 1: Look at the question briefly, but carefully. Decide quickly whether the two figures are exactly the same or different in some way. Mark choice 1 if they are the same. Mark choice 2 if they are different in any way. **Do not** skip questions. Your score on this test will be based on the number of questions answered correctly minus the number answered incorrectly or skipped. No points are deducted for questions not reached.

Part 2: Read each question carefully. Then read all of the answers to each question before deciding which answer is correct. If you are having difficulty determining the correct answer to a question, skip that one and come back to it later if you have time. It is to your advantage to answer each question even if you must guess at the answer. The score on this part will be based only on the number of correct answers. There is no penalty for guessing.

Make no marks in the test booklet. Mark your answers on the separate answer sheet. A mark on the answer sheet may be erased; but take care to erase completely. Any stray marks on the answer sheet may count against you. Scratch paper will be provided for making calculations. You will **not** be allowed to use calculators on the test.

Additional Suggestions: Oral directions by the monitor and written directions in the test booklet are given to help you and should be followed very closely. Pay close attention to the instructions given by the monitor at the beginning of the test session. Concentrate hard, and try to do your best.

PART 1
ATTENTION TO DETAIL

This test measures how fast you can identify differences between two figures. The figures may be designed or may be sets of number and symbols. For each question, compare the two figures and decide if the figures are exactly the same. If the figures are the same, choice 1 is correct. If the figures are different, choice 2 is correct.

Example Questions

Are the two figures the same?

1.  
2. 3/4'/mi. 3/4'/mi
3. Σ €
4.  
5. \geq \geq
6. 273x 273x
7. π π
8. \$66.77 \$666.77
9.  
10. M = .2(P/E)S M = .2(P/E)S

For 1, the correct answer is “**1**” because the two figures are the same.

For 2, the correct answer is “**2**” because the numbers/symbols are different. Notice that the one on the left has a period after mi, while the one on the right does not.

The correct answer for 3 is “**2**” because the two figures are not the same.

The correct answer for 4 is “**2**” because the two figures are not the same.

For 5, “**1**” is the correct answer because the two figures are the same.

For 6, “**1**” is the correct answer because the two numbers/symbols are the same.

In 7, “**1**” is correct because the figures are the same.

For 8, the correct answer is “**2**” because there are two sixes on the left and there are three sixes on the right.

For 9, the correct answer is “**1**” because the two figures are the same.

In 10, the correct answer is “**1**” because the two numbers/symbols are the same.

PART 2
ENGLISH USAGE
DIRECTIONS

The test is a measure of your ability to use English correctly. The test includes questions on spelling, punctuation, grammar, and usage. Look at the example below. It shows a paragraph of six lines from a Construction Inspector's report. The lines may or may not contain errors. Read the entire paragraph and then look at question 1. Question 1 show four ways to write the first line in the paragraph. Answer "1" simply repeats the line as it was written in the paragraph. Choose the best way of writing the line so that you have a well-written, error-free paragraph.

EXAMPLE

1. I was assigned a task at the construction cite, and I wanted to do it well.
It is very important that roads be built to specifications.
 2. My job was to measure three things;
 3. road length, road width, and width of the shoulders.
 4. But when I arrived, I realized that I did not have my tape measure.
 5. So I gone back to get it.
-

1.
 1. I was assigned a task at the construction cite, and I wanted to do it well.
 2. I was assigned a task at the construction site, and I wanted to do it well.
 3. I was assigned a task at the construction cite, and I wanted to do it good.
 4. I was assigned a task at the construction site, and I wanted to do it good.
2.
 1. My job was to measure three things;
 2. My job was to measure three things,
 3. My job was to measure three things.
 4. My job was to measure three things:
3.
 1. road length, road width, and width of the shoulders.
 2. road lenth, road width, and width of the shoulders.
 3. road lenth, road width, and width of the shoulders.
 4. road linth, road width, and width of the shoulders.
4.
 1. But when I arrive, I realized that I did not have my tape measure.
 2. But when I arrived, I realized that I did not have my tape measure.
 3. But when I arrive, I realize that I did not have my tape measure.
 4. But when I arrived, I realize that I did not have my tape measure.
5.
 1. So I gone back to get it.

2. So I goes back to get it.
3. So I have to go back to get it.
4. So I went back to get it.

For 1, “2” is correct for two reasons. First, site is the correct word to use when referring to a place of construction. Cite means to quote something. Second, well should be used as the adverb in the sentence, not good.

No question was asked about the second line in the paragraph.

For 2, “4” is the correct answer because a colon (:) should come before a list of items.

For 3, “1” is correct because length is spelled correctly.

For 4, the correct answer is “2” because the paragraph is about something that occurred in the past, so both achieved and realized should be in the past tense.

In 5, “4” is the correct answer because went is the past tense of the verb go.

FOLLOWING DIRECTIONS

DIRECTIONS

The test is a measure of your ability to read a set of rules and to use these rules in solving questions. In this test are sets of rules, each followed by a series of questions. Review the rules and then answer the questions by following the rules. These rules are for testing purposes, and they are not necessarily the same as the rules of the State.

Pay attention to the code numbers in the small box. Answers should be marked according to the code numbers.

An example is provided below.

EXAMPLE

The three types of storage are regular, warehouse, and special. Listed below are the rules for deciding which type of storage to use.

- Regular or warehouse storage should be used for items that do not need special handling.
- Special storage should be used for items that need special handling.
- Warehouse storage should be used for items weighing more than 200 pounds.
- Regular storage should be used for items weighing less than 200 pounds.
- Special storage should always be used for storing hazardous materials.

1 = Special 2 = Warehouse 3 = Regular

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1. Equipment weights 350 pounds
 2. Fifty-pound box of dynamite
 3. Five-gallon drum needing refrigeration
 4. Machinery weighing 175 pounds
 5. Cement truck used for parts
-

For 1, **“2”, Warehouse**, is correct because, according to the third rule, **warehouse** storage should be used for items weighing more than 200 pounds.

“1”, Special, is the answer to 2 because the last rule states that **special** storage should be used for storing hazardous materials.

For 3, **“1”, Special**, is the correct answer because the item needs the **special** handling of refrigeration.

In 4, **“3”, Regular**, is the answer because the item weighs less than 200 pounds.

For 5, you should have marked “2”, **Warehouse**, because a cement truck weighs more than 200 pounds.

PROBLEM SOLVING

DIRECTIONS

This test is a measure of your ability to solve word problems involving mathematical calculations. For some of the questions, the correct answer is not given.

EXAMPLE

1. Ten gallons of gasoline cost \$12.80. What is the price for 20 gallons?
 1. \$15.60
 2. \$24.60
 3. \$25.60
 4. \$64.00
 5. None of the above

2. An empty truck weights 7,500 pounds. Loaded, the same truck weighs 8,525 pounds. How many pounds does the load weigh?
 1. 1,000
 2. 1,075
 3. 1,525
 4. 3,525
 5. None of the above

3. If an auto travels at a steady speed of 15 miles per hour, how far will it travel in 1 minute?
 1. .25 miles
 2. .5 miles
 3. .9 miles
 4. 1.5 miles
 5. None of the above

4. In one day, a total of 97 autos passed through the intersection of Second Street and Collins Avenue. Of these autos, 36 entered the intersection from Collins Avenue going East or West, and 23 entered from Second Street, going North. How many autos entered the intersection from Second Street, going South.
 1. 24
 2. 38
 3. 48
 4. 74
 5. None of the above

5. A piece of machinery weighs 13,000 pounds. A second piece of machinery weighs 75% less than the first machine. How much does the second machine weigh?
1. 3,250 pounds
 2. 5,500 pounds
 3. 9,750 pounds
 4. 12,250 pounds
 4. None of the above
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For 1, the correct answer is “3”, **\$25.60**, because if 20 gallons is twice as much as 10 gallons, \$12.80 times 2 is equal to \$25.60.

For 2, “5”, is correct because 8,525 minus 7,500 is equal to 1,025, and that answer is not given.

For 3, “1”, **.25 mile** is correct because there are 60 minutes in one hour, and 15 divided by 60 is equal to .25.

For 4, “2”, **38** is correct because 97 minus 36 and 23 is equal to 38.

For 5, “1”, **3,250 pounds** is correct because 13,000 times .75 is equal to 9,750. And 13,000 minus 9,750 is equal to 3,250. You could also figure the answer by determining that 75% less than 13,000 equals 25% of 13,000 or 3,250 pounds.